

REMARKS

Claims 1-4, 6, 8, 10-12 and 16-32 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

INTERVIEW SUMMARY

Applicants would like to thank the Examiner for the courtesies extended to their representative, Dean W. Amburn, during a telephonic interview conducted on September 20, 2005. During the interview, the Examiner and Applicants' representative discussed proposed amended claims and the cited prior art references. The Examiner requested to receive and review written arguments in support of amended claims.

ELECTION/RESTRICTIONS

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-12, 16-30 drawing to a system for creating a custom fit fingernail comprising a non-contact measuring system, classified in class 700, subclass 182.

II. Claims 13-15, drawn to an artificial fingernail that is milled from a material by a computer numerically controlled device comprising a milled undersurface and a milled top surface, classified in class 700, subclass 159.

Applicants elect claims 1-12 and 16-30 of group I with traverse without prejudice to pursuing the non-elected claims in subsequent divisional or continuation applications.

REJECTIONS UNDER 35 U.S.C. § 102 AND 35 U.S.C § 103

Claims 1-5, 7-10, 16-18, 23-24 and 29 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Tessarolo (U.S. Pat. No. 6,328,949). Claims 6, 11-12, 27-28 and 30 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Tessarolo in view of Sullivan (U.S. Pat. No. 5,309,365). Claims 19-22, 25-26 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Tessarolo in view of Mombourquette (U.S. Pat. No. 6,035,860). These rejections are respectfully traversed.

A. The Invention is Directed to Manufacture of Three-Dimensional Artificial Fingernails not Fingernail Coverings or Fingernail Painting

Independent claims 1, 8, 16, 19, 23 and 29 have been amended to more clearly define the distinguishing patentable features of the invention over the references cited by the Examiner. Each of these claims have been amended to more clearly show that the invention is directed to creating custom fit "three-dimensional artificial fingernails." The term "three-dimensional" is added to more clearly define that the invention provides for creating true artificial fingernails rather than simply fingernail coverings as is taught in the Tessarolo reference. Fingernail coverings are more akin to fingernail painting than an artificial fingernail that can be longer and shaped differently than the underlying natural fingernail. An artificial fingernail inherently has some level of rigidity to allow for it to extend beyond the length of the natural fingernail while a fingernail covering as taught in Tessarolo is made of flexible two-dimensional material that conforms and covers only the natural fingernail.

None of the cited references of Tessarolo, Sullivan or Mombourquette teach or suggest the complete manufacture of a three-dimensional artificial fingernail. Tessarolo

is directed to fingernail coverings and Mombourquette is directed to applying artwork to fingernails. Sullivan is directed to mechanically measuring a fingernail to match it to a preformed "blank" and then cutting the blank periphery to fit the fingernail (Col. 4, Lines 15-18, Col. 5, Lines 1-3). Since a blank is used, there is no ability to match the blank exactly to the vast variation in fingernail shapes and sizes to give a truly customized artificial fingernail. In using a blank, Sullivan does not completely manufacture a three-dimensional artificial fingernail. Therefore, each of the cited references does not teach or suggest the manufacture of a "three-dimensional artificial fingernail" as provided by the invention.

B. The Invention Solves Problems and Provides Advantages Unappreciated by the Cited References

The invention provides for creating "custom fit" three-dimensional artificial fingernails incorporating user selected parameters of length and style. The invention provides for a "custom fit" meaning the three-dimensional topography of a natural fingernail is measured and an artificial fingernail is cut out of a material to fit in three-dimensions the top surface of the natural fingernail. This provides a true custom fit rather than an approximated fit as is described in the cited references. The invention provides for custom fitting substantially any natural fingernail. A true custom fit will adhere to the natural fingernail better and appear more natural than an approximated fit.

None of the cited references provide a satisfactory solution to the problem of how to economically and efficiently create a truly custom fit artificial fingernail. In Tessarolo fingernail covers are made out of a (vinyl) material that is fed through a plotter for cutting. (See Col. 4, Lines 41-45, and Figs. 4-6). A plotter by definition can only work with substantially two-dimensional flexible material as is illustrated in Figs. 5 and 6 of

Tessarolo. As shown in Fig. 6 the flexible material conforms to the surface of the fingernail rather than custom fits based on its three-dimensional shape. Since the material flexibly conforms rather than rigidly custom fits it is not necessary in Tessarolo to measure the topography (in x-y-z coordinates) of the natural fingernail. In fact, in Tessarolo the curvature of the natural fingernail is taken into account only to adjust the two-dimensional nail image to correspond "substantially" with the three-dimensional nail top surface. (Col. 4, Lines 15-19). Therefore, Tessarolo does not teach or suggest a method or system for creating custom fit artificial fingernails. Nor does it teach or suggest a satisfactory solution for how to create a "custom fit three-dimensional artificial fingernail."

As already discussed the teachings of Mombourquette are directed to applying artwork to (i.e. painting) fingernails. In Mombourquette there is neither need nor teachings of measuring and replicating the three-dimensional topography of a natural fingernail in part of a three-dimensional artificial fingernail.

In Sullivan a natural fingernail is mechanically measured to approximate the curvature of the fingernail to match to "blanks." (See Col. 3, Line 65 to Col. 4, Line 18, and Fig. 3). The blanks by definition are an approximate fit rather than a custom fit that matches exactly the topography of the natural fingernail.

Equally as important as providing a custom fit the invention also provides for designing the artificial fingernail by selecting parameters for the artificial fingernail including its length and style. Here, style means physical shape not just coloring or design in two-dimensions. The invention provides for virtually unlimited style options not limited to color or tip shape since the style is cut by a machining device. To the

extent that any of the three references uses the word "style" it is used in a limited manner and not in reference to altering the complete physical shape of an artificial fingernail.

Finally, and most importantly the invention provides for creating the "three-dimensional artificial fingernail using the three-dimensional design of the artificial fingernail" (claim 1) where the design comprises the three-dimensional topography of the natural fingernail and the selected parameters. In other words the invention advantageously allows for combining data representing the three-dimensional topography of the natural fingernail with length and style thus creating a truly customized three-dimensional artificial fingernail that fits exactly the natural fingernail. None of the references teach or suggest this part of the invention.

In Tessarolo the nail coverings are just that – two-dimensional nail coverings that approximate in two dimensions the size needed to conform to a natural fingernail. In Sullivan the natural fingernail is measured to approximately match pre-made artificial fingernail blanks that are then cut on the blank periphery. In Sullivan there is no system or step for merging measurement data with a design for creating an artificial fingernail. In Mombourquette there is no artificial fingernail created.

Therefore, none of the cited references solve the problems or provide the advantages of the invention.

C. Tessarolo Does not Anticipate the Invention

Tessarolo does not teach or suggest the invention as reflected in the claims. First, Tessarolo does not teach or suggest measuring a three-dimensional topography of the natural fingernail. Although Tessarolo makes reference to entering into a

computer a three-dimensional digitized image of the nail top surface an image is not the same as a measurement. Further, as Tessarolo is directed to nail coverings of a self adhesive vinyl there is no need in measuring the topography of a natural fingernail. In Tessarolo any three-dimensional measurement can only be used to adjust the size of a two-dimensional sheet of vinyl for nail coverings.

Further, to the extent that it can be argued that Tessarolo suggests three-dimensional scanning of the nail top surface, Tessarolo lacks enablement for manufacturing three-dimensional artificial fingernails that custom fit a natural fingernail based on a three-dimensional topography of the natural fingernail. Tessarolo provides no detail about how one skilled in the art would get from scanning of the nail top surface to a machined three-dimensional artificial fingernail. The missing information renders this portion of the disclosure not enabled. A reference that lacks enablement is not an appropriate basis for a 35 U.S.C. § 102 rejection.

Neither does Tessarolo teach or suggest use of a machining device for creating a three-dimensional artificial fingernail. In Tessarolo a plotter is used for cutting nail covers out of a self-adhesive vinyl (Col. 4, lines 42-44). A plotter is not a machining device and is simply not capable of shaping a three-dimensional artificial fingernail.

Nor does Tessarolo teach or suggest converting the three-dimensional design of an artificial fingernail into machine codes for the machining device. In Tessarolo a two-dimensional nail image is said to be imported into a graphics program such as Corel Draw 7 and then the digitized nail image can be communicated to the plotter (Col. 4, lines 37-42). Tessarolo simply does not teach or suggest conversion of a three-dimensional design of an artificial fingernail into machine codes for a machining device.

Further, Tessarolo does not teach or suggest a design system for designing the artificial fingernail using a three-dimensional topography of the natural fingernail in the design of the artificial fingernail. The Examiner points to Col. 4, lines 58-62 of Tessarolo in support. This section of Tessarolo refers to cutting material which is preferably a self-adhesive vinyl in order to "conform" to the nail top surface. It is clear from Tessarolo that the self-adhesive vinyl is a two-dimensional material that can conform to a surface. Further, the only reference to design of the nail coverings of Tessarolo is for correction of size of the self-adhesive vinyl so that it corresponds when laid onto the fingernail to the conformity of the fingernail. In Tessarolo there is no design system.

Nor does Tessarolo teach or suggest converting the three-dimensional topography of the natural fingernail into a data structure wherein the data structure comprises the three-dimensional design of the artificial fingernail. Again, Tessarolo is directed to two-dimensional nail coverings that conform to the nail surface thereby creating an instant nail finish which covers substantially the entire nail surface (Col. 4, lines 49-53).

Independent claim 1 has been amended to positively define the invention as having a design system for designing the three-dimensional shape of the artificial fingernail by offering the selection of parameters comprising length, and three-dimensional style, of the artificial fingernail; [and] a calculation module within the design system for calculating a three-dimensional design of the artificial fingernail from the three-dimensional topography of the natural fingernail and the selected parameters. This further distinguishes the invention from the teachings of Tessarolo where there is

no design of a three-dimensional fingernail and there is no calculation of a three-dimensional design of the artificial fingernail.

The invention has important advantages over the Tessarolo reference. First, the invention provides for the manufacture of real artificial fingernails (with three-dimensional shapes) not fingernail coverings. Second, the invention provides for designing the three-dimensional artificial fingernail where options such as length and style can be selected. Third, the invention provides for calculating a three-dimensional design of the artificial fingernail that incorporates the three-dimensional topography of the natural fingernail but also the selective parameters comprising length and style of the artificial fingernail.

The end result is that the user has an opportunity to receive a truly custom designed (three-dimensional) artificial fingernail. An artificial fingernail manufactured with the system or process of the invention has the advantages of custom fitting on top of a natural fingernail yet appearing to be an extension of the nature fingernail since it is custom fitted. The system and method of the invention provide for an opportunity to make an artificial fingernail that is unsurpassed in quality and fit.

Further, the system and method of the invention allow for incorporating three-dimensional shape and designs into the artificial fingernail that are not available in Tessarolo as it relates to fingernail coverings. Most importantly, the system and method of the invention allow for manufacturing that are designed and shaped in three-dimensions yet custom fit the natural fingernail.

For at least the above stated reasons Tessarolo does not anticipate claims 1-5, 7-10, 16-18, 23-24, and 25.

D. The Invention is not Obvious by Tessarolo in view of Sullivan or by Tessarolo in view of Mombourquette

For all of the reasons already described Tessarolo fails to teach or suggest a system or method for creating three-dimensional artificial fingernails. Sullivan also fails to teach or suggest a system or method for creating custom fit three-dimensional artificial fingernails. In Sullivan a mechanical method is used to measure the surface of a natural finger. However, and importantly, Sullivan relies upon matching nail tip blanks to the curvature and radius of the natural fingernail. "Each of the nail tip blanks used as a given radius of curvature and the radius of the blank selected must match the radius determined by the Z axis probe 46 for the involved finger." (Col. 4, lines 12-15). Further, in Sullivan only portions of the blank are cut by the cutting tool. Therefore, neither Tessarolo nor Sullivan either individually or in combination teach or suggest elements of claims 6, 11-12, 27-38 and 30.

Nor does Mombourquette either individually or in combination with Tessarolo teach or suggest the elements of claims 19-22, and 25-26. Mombourquette relates to a system for applying art work to fingernails. Applying artwork to fingernails is not the same as creating a three-dimensional artificial fingernail. In Mombourquette the reference to "design" relates to design of the fingernail coating including desired colors. In reference to Mombourquette, design does not mean design of a three-dimensional artificial fingernail. There is no suggestion or teaching of selecting thickness, length and style as offered by the invention.

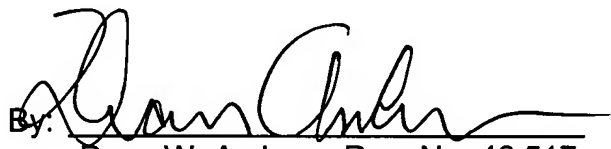
Therefore, the examiner is respectfully requested to reconsider and withdraw the rejections of all the pending claims.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: 9/28/2005

By: 
Dean W. Amburn, Reg. No. 46,517

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

DWA/jm